Special Issue

Challenges in Additive Manufacturing: From Coupon Studies to Components

Message from the Guest Editor

Additive manufacturing (AM) of metallic materials still faces serious hurdles that need to be overcome before a widespread utilisation, particularly for highly loaded and safety-relevant components, can be achieved. A variety of technologies, such as laser powder bed fusion, are available today and new approaches, such as multi-material printing, are under development. This Special Issue shall be dedicated to new developments in metal and multi-material AM, encompassing (yet not limited to): materials properties–process relationships;
multi-material AM and new AM approaches;
process modelling, simulations and digitalisation;
in operando process monitoring;
alloy development for AM;
transfer of process and materials knowledge from coupons to components;
component manufacturing: build and post-processing strategies; and
material characterisation in complex AM components. I invite you to contribute original, high-quality submissions to this Special Issue. Regular and review articles as well as short communications from materials research, theoretical modelling, engineering and process simulation are welcome.

Guest Editor

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Deadline for manuscript submissions

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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